



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,619	10/22/2003	Shinnen Kobata	2003_1519	4810

513 7590 08/10/2005

WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
----------	--------------

1775

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,619

Applicant(s)

KOBATA ET AL.

Examiner

Gwendolyn Blackwell

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/088,919.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Examiner's Comment

1. As it was unclear which set of the five claim sets present in the application should be examined, a call was made to the attorney of record to ascertain the relevant claim set. Donna King, Mr. Cheek's assistant, indicated on August 4, 2005 that the claim set with the corresponding date of May 24, 2005 is the proper claim set to be examined.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,673,456. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of claims 1-28 of the pending application are completely encompassed by the invention of patented claims 1-30.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 13, and 16-25 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,830,568, Kondo.

Applicant's claim 1

Applicant's claim 1 requires an interlayer film for laminated glass comprising an adhesive resin containing tin doped indium oxide and/or antimony doped tin oxide particles dispersed in the resin wherein the particle diameter is greater than 0 and less than 80 nm.

Regarding claims 1-2 and 4

Kondo discloses a laminated glass with an interlayer with particles having a diameter ranging from 0.001 μm – 0.2 μm , (column 3, lines 10-19). The particles can be antimony doped tin oxide or tin doped indium oxide, (column 4, lines 13-55). Preferably, although not limited to, the interlayer is comprised of a polyvinyl butyral or an ethylene-vinyl acetate which can also contain a plasticizer, meeting the requirements of claims 1-2 and 4, (column 3, lines 56-65).

Regarding claim 5, 13, and 16-17

A bond-adjusting agent can be added to the interlayer, meeting the requirements of claim 13, (columns 3-4, lines 65-4). The particles can be present in an amount ranging from 0.5-5.0

Art Unit: 1775

wt% with the rest being binder, resin and optionally other additives. Solvents can be added to the interlayer mixture, meeting the requirements of claims 5 and 16-17, (column 7, lines 5-54).

Regarding claims 3 and 20-25

Kondo also discloses the sheet glass can have a thickness ranging from 2.0 mm to 2.5 mm with a visible light transmittance of at least 70% and a solar radiation up to 65%, (column 6, lines 2-55). The haze of the laminated glass can be extremely low at about 0.3%. The Δ dB of the electric field shield was not greater than 2 dB, (columns 8-9, Example 1). Example 2 further demonstrates that the pummel value for an embodiment of the Kondo invention is between 3-4, meeting the requirements of claims 3 and 20-25, (columns 10, lines 40-60).

Regarding claims 18 and 19

Claims 18 and 19 are product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. Because final product of the present invention has not been demonstrated to show a material difference over the final product of Kondo, the process limitations within claims 18 and 19 are not shown to provide a patentable distinction over the prior art of record.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1775

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 6-8, 11-12, 14-15, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 4,020,217, Karasudani et al in view of United States Patent no. 5,830,568, Kondo.

Applicant's claims 1 and 8

The requirements for Applicant's claim 1 have been set forth above. Claim 8 requires an interlayer film comprised of an adhesive resin containing tin doped indium oxide and/or antimony doped tin oxide particles in addition to at least one of a chelating agent, a compound with at least one carboxyl group at it's terminal position, and a modified silicone oil.

Karasudani et al disclose a laminated glass with a plasticized polyvinyl acetal resin treated with an alkali metal (potassium) or alkaline metal (magnesium) salt of an organic mono- or di-carboxylic acid. The organic acids are aliphatic monocarboxylic acids containing

Art Unit: 1775

preferably up to 12 carbon atoms, (column 7, lines 21-64). Karasudani et al do not specifically disclose that metal additives can be added to the interlayer.

Kondo discloses a laminated glass with an interlayer with particles having a diameter ranging from $0.001\ \mu\text{m}$ – $0.2\ \mu\text{m}$, (column 3, lines 10-19). The particles can be antimony doped tin oxide or tin doped indium oxide, (column 4, lines 13-55). Preferably, although not limited to, the interlayer is comprised of a polyvinyl butyral or an ethylene-vinyl acetate that can also contain a plasticizer, (column 3, lines 56-65). In addition, a bond-adjusting agent can be added to the interlayer, (columns 3-4, lines 65-4). The particles can be present in an amount in a range preferably from 0.5-5.0 wt% to with the rest being binder, resin and optionally other additives. In addition solvents can be added to the interlayer mixture, (column 7, lines 5-54).

Karasudani et al and Kondo disclose interlayer films used in glass laminates. While Karasudani et al do not disclose that particles can be added to the interlayer film, a concern of Karasudani et al is to improve the penetration resistance of the laminate as well as maintaining high transparency, aging resistance, and weatherability, (column 2, lines 3-20). As Karasudani et al and Kondo can both use polyvinyl butyral for the interlayer material, it would have been obvious to one skilled in the art at the time of invention to modify the interlayer film of Karasudani et al with the particles of Kondo to create a glass laminate that exhibits extremely low haze, has improved bond strength, and improved penetration resistance, (Kondo, column 3, lines 1-11). Such a glass laminate leads to increased safety for drivers when the glass is used as an automotive glass laminate.

Allowable Subject Matter

9. Claims 9-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Neither Karasudani et al nor Kondo teach or suggest the limitations of claims 9-10 pertaining to the chelating agent being a β -diketone.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

United States Patent nos. 6,107,360 and 6,380,294 disclose compositions for adhesive layers used to bond laminates utilizing resins and tin oxide/indium oxide types particles dispersed in the layer.

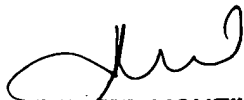
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gwendolyn Blackwell
Examiner
Art Unit 1775



JENNIFER MCNEIL
PRIMARY EXAMINER